

Agriculture, Biotechnology and Food

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Vice-President Announced



SRC is proud to announce that Dale Kelly has been appointed Vice-President of its Agricultural, Biotechnology and Food Division.

Mr. Kelly is well known to SRC, having represented several of the cattle breeding associations involved in our Bova-Can Laboratories joint venture. Through this process of working closely with Dale, we have been exposed to his broad-based knowledge and understanding of the agriculture sector. His business experience and insights in this industry will be of tremendous value to the Division, for which we plan substantial growth over the next few years.

Mr. Kelly was most recently the President and CEO of AgraPoint International Inc., which is based in Nova Scotia. He brings over 25 years of experience in the agri-food industry and has worked with all levels of government on a wide variety of agricultural issues/projects including International work. He has a strong track-record of business management and leadership, including managing and re-engineering companies.

The addition of Mr. Kelly to the SRC team is not only a benefit for our organization, but to our province. Welcome Dale!

Contact Dale at kelly@src.sk.ca ■

SRC's Fermentation Technologies group gets new name

Since 1999, SRC has been operating its high-tech Fermentation Pilot Plant and associated labs as the Fermentation Technologies business unit. With the recent launch of SRC's 5-year strategic plan, the unit has been renamed "Health and Food."

Why the change? It's to reflect the industries being served. Traditionally the group has worked on animal health projects such as vaccine development or crop improvement projects such as microbial inoculants. Today their business maintains Level 2 GLP capabilities and has expanded to support additional Health and Food technologies targeted at nutraceuticals and proteins.

"The new name better suits the work we've been conducting for years," says Amy Friesen, lead scientist and acting supervisor for the business unit. "Our former name, fermentation, often left people uncertain as to what kinds of activities we carried out. The new name "Health and Food" not only captures our fermentation work and process development work, but better describes the industries we are targeting."

The Health and Food business unit boasts unique capabilities in Saskatchewan. The Biosafety Level 2 Fermentation Pilot Plant facility is able to provide process development

services and supports bacterial, fungal, algal and recombinant fermentations at 10 L to 300 L scale. Up to 6 identical fermenters can be used simultaneously to optimize process parameters and media constituents.

In addition, the Health and Food business unit recently added a ÄKTA Pilot chromatography system to its repertoire of tools and technologies. A team of three employees have been trained by GE Healthcare to use this powerful tool. Along

with the ÄKTA Explorer for process development, it has a wide-range of uses including the purification of proteins for use in enzymes, vaccines, nutraceuticals, and natural health products. It will allow clients to extract large quantities of valuable proteins for food, pharmaceutical, or industrial use from microorganisms and plants.

The expertise and knowledge of the employees in the Health and Food business unit, combined with leading edge tools and technologies positions the lab to not only assist the Saskatchewan, but Canadian, health and food industries.

For more information, contact Amy Friesen at friesen@src.sk.ca ■



GenServe Laboratories Evolving to Support Industry Demands

When GenServe Laboratories™ first opened in the late 1990's, the business was focused on supporting plant genetics. Since then the lab has expanded its service offerings to support a multiple number of industries ranging from crops to animals to microorganisms.

The common thread in GenServe's services for its diverse client base, is DNA testing. The lab conducts high throughput DNA testing and DNA fingerprinting to establish identities and assess relatedness between individual samples.

A unique project the lab has been working on is assisting the Saskatchewan Beekeepers' Association (SBA) to improve genetic resistance in bees to parasitic mites. Through this process new genetic stocks selected from hybridized varieties have been introduced into the local bee population to help improve resistance. Future work will focus on determining links between favourable hygienic and production traits and specific genetic markers. This work will enable the honeybee

farmer to decrease dependence on chemical treatments for disease and parasites, while increasing honey yield.



GenServe is currently establishing ultra-high throughput genotyping capabilities to complement its existing services. To achieve this, the lab will utilize automated DNA extraction and the Sequenom SNP (single nucleotide polymorphism) platform. This platform technology is unique in Saskatchewan and will allow the lab to significantly increase efficiency and productivity.

In addition to its enhanced technical capabilities, GenServe is also in the process of building a genetic database for high-value organisms. Ultimately, GenServe will be positioned to better support a wide range of industries in Saskatchewan and across Canada.

For more information, contact Satish Rai at rai@src.sk.ca ■

New Geneticist Brings Wealth of Experience and Expertise to SRC

SRC is proud to announce the recent addition of geneticist Dr. Satish Rai. With his strong technical and business skills, Dr. Rai will provide dynamic scientific leadership across the Division as it evolves and grows in the area of applied genomics.

Dr. Rai earned his Ph.D in Plant Sciences, focusing on Molecular Genetics, from North Dakota State University. His extensive experience includes developing DNA test methods to detect GMO's, managing a high throughput DNA detection lab, as well as developing markers for marker assisted breeding.

"The outlook for our Division and its growth potential is very positive," said Dale Kelly, Vice-President. "It's a very exciting time for the Division and Satish's expertise and insights will be a great complement to the entire Division as we expand and carve out new niches." ■

Bioprocessing - a new business with long-time roots

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SRC has a long history in working in the area of Bioprocessing ranging from biofuels to bioproducts. But this year marks a new milestone with the creation of the Bioprocessing business unit at SRC.

"The Bioprocessing business unit intends to be the focal point for all of SRC's production work related to biofuels and bioproducts,"

says Darren Anweiler, team leader for the new area. "It's an exciting development, as the area of bioprocessing has garnered a

The multi-year project includes technology development and plant design, along with analysis of the environmental implications, feedstock availability and marketing potential.

Although the new Bioprocessing business unit will focus on production of bioproducts, SRC has other areas actively engaged on the use and support of bioproducts such as biofuels. SRC's Alternative Energy

Development business unit has been providing Smart Fuel Solutions™ through the work of its alternative energy and



great deal of attention at both the federal and provincial levels over the past couple of years."

The goal of the business unit is to work with industry to develop processes, products and fuels related to biomass. The opportunities are endless and SRC already a demonstrated track record in this area. A recent example, is SRC's work on a made-in-Saskatchewan ethanol technology for an initiative in Nipawin. The goal of the project is to use forestry and agricultural biomass, such as wood chips and excess straw, as a feedstock.

development engineering groups. SRC has converted vehicles to run on alternative fuels including hydrogen, natural gas, hydrated ethanol, biodiesel, and biogas. SRC has 9 vehicles in its fleet which includes a 100% hydrated ethanol tractor. Further, SRC's Biofuels Test Centre™ offers clients a suite of tests to assess the chemical composition and quality of ethanol and biodiesel samples.

For more information contact Darren Anweiler at anweiler@src.sk.ca ■

Bova-Can Laboratories - *a full service lab for livestock genetics*

For 20 years, Bova-Can Laboratories – a joint venture of Saskatchewan Research Council and Bova-Can Parentage Testing Inc. – has been providing parentage verification services to the livestock industry.

In the livestock industry, the value of an animal is determined by its genetic merit and performance, and by the characteristics and performance of its ancestors and offspring. In addition, many countries will not accept export stock without a verification of parentage. This means that high-quality testing and precise record keeping are crucial for giving breeders a competitive edge in the market place, as well as ensuring that the continuing quality of a herd improves. Bova-Can Laboratories provides this service and is recognized as a leader for DNA testing of livestock.

Bova-Can's expertise in genetics has been recognized through the BSE – or Mad Cow



disease – issues that have rocked the cattle industry Canada for the past several years. Bova-Can was the lab called on by the Canadian Food Inspection Agency (CFIA) to help trace the location of the farms where the initial infected animal lived throughout its life and identify farms where other cattle may have been exposed to the infected animal. Since

then Bova-Can has assisted on additional BSE cases.

Bova-Can also conducts research and development to advance herd improvement technologies. This includes identifying genetic markers for high value traits in cattle. For example, in the dairy industry, cattle that produce high protein, low fat milk are more desirable and valuable for breeding; therefore in one project, specific strategic industry stakeholders worked with Bova-Can to develop and implement marker assisted selection that allows producers to identify and selectively breed cattle with these desired traits.

"The livestock industry in Canada has seen many changes in recent years," said Dale Kelly, Vice-President of the Agriculture, Biotechnology and Food Division. "In my new role as VP, I look forward to working with Bova-Can during these exciting times, but across the Division to meet the needs and challenges of industry."

For more information, contact Satish Rai at rai@src.sk.ca ■

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